

105. (Twice amended) A substrate with a surface, said surface comprising at least two predefined regions at known locations of said surface, said predefined regions of said surface comprising [oligonucleotides of different, known sequences] groups of oligonucleotide molecules of known sequence within said predefined regions and differing in monomer sequence from groups of oligonucleotides in another predefined region, the [oligonucleotides] oligonucleotide molecules covalently attached to said surface, and said predefined regions each occupying an area of less than about 0.01 cm^2 .

106. --CANCELLED--

107. The substrate recited in claim 105 wherein said area is less than $10000 \text{ } \mu\text{m}^2$.

108. The substrate recited in claim 105 wherein said area is less than about $100 \text{ } \mu\text{m}^2$.

109. (Twice amended) The substrate recited in claims 105, [106,] 107, or 108 wherein said oligonucleotides are at least 50% pure within said predefined regions.

110. A substrate with a surface comprising 10^3 or more oligonucleotides with different, known sequences covalently attached to the surface in predefined regions.

111. (Twice amended) The substrate as recited in claim 110 wherein said substrate comprises 10^4 or more different [oligonucleotides] groups of oligonucleotide molecules with known sequences covalently coupled to predefined regions of said substrate.

112. (Amended) The substrate as recited in claim 110 wherein said substrate comprises 10^5 or more different oligonucleotides with known sequences in predefined regions.

113. (Amended) The substrate as recited in claim 110 wherein said substrate comprises 10^6 or more different oligonucleotides with known sequences in predefined regions.

114. (Amended) The substrate as recited in claim 110 wherein said oligonucleotides are at least 50% pure within said predefined regions.

115. (Amended) The substrate as recited in claim 110 wherein the oligonucleotides are attached to the surface by a linker.

116. --CANCELLED--

117. (Amended) An array of more than 500 different [oligonucleotides] groups of oligonucleotide molecules with known sequences covalently coupled to a surface of a substrate, said groups of oligonucleotide molecules each in predefined regions and differing from other groups of oligonucleotide molecules in monomer sequence, each of said predefined regions being an area of less than about 0.01 cm^2 and each predefined region comprising oligonucleotides of known sequence.

118. The array as recited in claim 117 wherein said area is less than $10,000 \text{ microns}^2$.

119. The array as recited in claim 117 comprising more than 1000 oligonucleotides of known sequences.

120. (Amended) The [substrate] array as recited in claim 117 made by the process of:
exposing a first region of said substrate to light to remove photoremovable groups from nucleic acids in said